Monitoring Plan Review

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Focus

- What is a monitoring plan
- Contents of a monitoring plan
- Monitoring plan review responsibilities
- Reviewing monitoring plans
  (Monitoring Plan Check List)

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What is a monitoring plan?

- The monitoring plan provides:
  - Basic Unit Information
  - Monitor Locations
  - Formula Identification
  - Monitoring Spans
  - Monitoring System Identification
- The monitoring plan is the document that identifies the overall monitoring strategy for a unit.
- This information is used to guide the agencies review of the data, and quality assurance tests.

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Parts of the monitoring plan

- Electronic portion
  - The content of the electronic portion of the monitoring plan is given in §75.53(e)(1)
  - Report the applicable 100, 500, and 900 level records in EDR v2.1 format
- Hardcopy portion
  - The content of the hardcopy portion of the monitoring plan is given in §75.53(e)(2)

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What type of information is included in the electronic portion of the monitoring plan?

- What programs a unit(s) is subject
- Monitoring methodology
- A list of components for each measurement system (model and serial #)
- The formulas used for data calculations

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Information in the Electronic Monitoring Plan (continued)

- The span and range of each monitoring system
- Maximum, minimum, and default values
- Unit and Stack operating load and normal operation data
- Fuel flow data

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Information in the Electronic Monitoring Plan (continued)

- Reasons for monitor downtime
- Monitoring System maintenance events
- Appendix E correlation curve data
- Control equipment

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Information in the Electronic Monitoring Plan (continued)

- Unit fuel type information
- Fuel usage data for peaking status qualification
- Subpart H reporting schedule
  (quarterly, or ozone season only)

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What type of information is included in the hardcopy portion of the monitoring plan?

- Identification of the test strategy
  - RATA test protocol
  - Calibration gas levels for the linearity's and daily calibrations
- Calculations for determining
  - maximum potential concentration (MPC),
  - maximum expected concentration (MEC),
  - maximum potential flow rate (MPF),
  - maximum potential NO_X emission rate (MER), and
  - span

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Information in the Hardcopy Monitoring Plan (continued)

- Description of site locations for each monitoring component of the CEMS, including schematics to demonstrate that the monitoring locations meet the appropriate siting criteria.
- Data flow diagram showing the data handling from analyzer output to the final report

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Information in the Hardcopy Monitoring Plan (continued)

- A schematic of the unit and stack configuration and the relative location of the monitoring system components, as well as:
  - fans, turning vanes, and air pre-heaters
  - reference method sampling ports
  - all other equipment that may affect the monitoring system location, performance, or the ability to perform quality control checks.

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Monitoring Plan Submittal

- Electronic Portions
  - Send Electronic Monitoring Plan in EDR v.2.1 format to CAMD
    - » Submission should include the appropriate 100, 500, and 900 level Record Types
    - » Submit electronically via e-mail: MP-Reg#@epa.gov
      - MP-Reg1@epa.gov
      - MP-Reg2@epa.gov
      - And so on . . .
  - Copy Region and Permitting Authority with Hardcopy Submittal
- Hardcopy Portions
  - Submit to Region and Permitting Authority

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Monitoring Plan Review Responsibilities

- CAMD
  - Review the electronic monitoring plan using MDC
  - Feedback will be sent to the Source, State Permitting Authority, and the Region

- State and/or Region
  - Review the hardcopy information supplemented by the CAMD feedback of the electronic portion
  - Communicate and resolve any deficiencies with the sources

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Monitoring Plan Updates

- The monitoring plan is a “living document” that reflects changes over time in the monitoring systems
- Each quarterly Electronic Data Report (EDR) should include the most recent version of the electronic monitoring plan
- The hardcopy and electronic changes are submitted to the State and EPA Region offices.
- CAMD will only receive the electronic copy

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Monitoring Plan Review

- AAR Certification Statement
- Schematic Diagrams
- Flow Monitor Location
- Data Flow Diagram
- Span Calculations
- Electronic Portion Review
- Calibration Gas Levels
- Test Protocol

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AAR Signature and Certification

- Was the submission signed by the AAR?
- Was there a certification statement included?

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Schematic Diagrams

- Are all emissions from affected units monitored?
- Are all required CEMS's represented for each unit or common stack?
- Are all control systems represented?

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Schematic Diagrams

- Are upstream and downstream disturbances shown around sampling locations?
- Are all oil and gas fuel supply lines and fuel flowmeters shown (Appendix D)?

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Flow Monitor Location

- Are the inside cross-sectional areas at the flow monitor location included?
- Are the inside cross-sectional areas at the stack exit included?
- Is the flow monitor installed in an appropriate location?
  (Part 75, Appendix A § 1.2)

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Alternative Flow Monitor Location By Petition

- Has a petition been approved by CAMD for an alternative monitoring site?
- Is the flow monitor installed in an appropriate alternative location per the petition response?

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Data Flow Diagram

- Does the data flow diagram adequately illustrate the information path from the CEMS analyzer to the electronic data report?

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Span Calculations

- Was the MPC and Span for the NO_X concentration monitor determined appropriately? (part 75, app. A, sec. 2.1 & 2.1.2)
- If there is a NO_X control device, was a MEC calculated?
- Is a dual-range monitor required for this unit?

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Span Calculations (continued)

- Was the MPC and Span for the Diluent monitor determined appropriately?
  (part 75, app. A, sec. 2.1.3)
- Was the MPV and Span for the flow monitor determined appropriately?
  (part 75, app. A, sec. 2.1.4)

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Manual Review of Electronic Monitoring Plan Portion

- Are the formulas (RT 520) consistent with the monitoring methodology?
  - Correct application of equations?
  - Are the equations entered correctly?
- Do the formulas account for all the monitored emissions?
- Do the formulas account for all heat input?

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Manual Review of Electronic Monitoring Plan Portion (cont)

- Do the MPC and Spans agree with those calculated in the hardcopy portion?
- Does the calculated MER agree with the hardcopy portion?
- Were errors identified by the MDC software?
- Were the defaults entered in the RT531 determined in accordance with part 75 and supported in the hardcopy portion?

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Calibration Gas Levels

- Are the calibration gas concentrations identified the correct percent of span for:
  - Daily Calibration Checks
  - Low, Mid, and High Level Linearity Checks

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Test Protocol

- Is the notice acceptable?
- Are the test methods identified those required by §75.22?
- Are all required certification tests identified in the test protocol?

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